

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Examine the  
Commission's Future Energy Efficiency Policies,  
Administration and Programs.

Rulemaking 01-08-028  
(Filed August 23, 2001)

**EM&V CONTRACTOR QUALIFICATIONS  
AND NOTIFICATION OF INTEREST  
RIDGE & ASSOCIATES**

**CPUC R.01-08-028**

In Response to:

**ADMINISTRATIVE LAW JUDGE'S RULING REGARDING  
EVALUATION, MEASUREMENT AND VERIFICATION OF  
LOCAL ENERGY EFFICIENCY PROGRAMS**

July 2, 2002

Submitted by:

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**EM&V Contractor Qualifications  
And Notification of Interest  
Ridge & Associates**

**1 Background**

The ALJ Thomas Rulemaking 6/17/02 ordered potential contractors interested in providing EM&V services for local energy efficiency programs funded for 2002-03 to file and serve qualifications and resumes. In addition, the order required responses to five questions for each program for that the contractor proposes to evaluate:

1. Identification of the Recipient(s) and local energy efficiency programs for which the Contractor proposes to perform EM&V services;
2. An explanation of why the contractor is independent of Recipient;
3. A list of all work the Contractor has done with or for the recipient;
4. An explanation of any factor that might lead a reasonable person to question whether the Contractor is actually independent of the Recipient; and
5. A description of any reason why the Commission might not select the Contractor (e.g., Contractor's outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation or other proceedings, license suspensions or other similar actions, or criminal convictions).

In the following sections, we provide a statement of the qualifications, resumes, and answers to the five questions for each program that we propose to perform EM&V services.

**2 Statement of Qualifications**

Richard Ridge, Ph.D., is President and Owner of Ridge & Associates (R&A). He has more than 25 years of experience conducting a wide variety of social science research projects. His expertise is in statistical analysis, research methods, evaluation research, decision analysis, organizational behavior, and forecasting. For 20 of these 25 years, he has focused these skills on the areas of energy conservation and energy efficiency. The Qualifications of Ridge & Associates and the full resume of Dr. Richard S. Ridge are provided in Attachment A.

### 3 Responses to Questions

Below, we list for each Recipient the specific program(s) for which we propose to provide EM&V services and proceed to answer each of the five questions listed above. Before answering these questions, we emphasize that we have not worked with any of the local program administrators in helping to create these programs nor are we involved in any way in their implementation. R&A has always offered independent evaluation services and adheres to the highest professional standards. Many of our evaluations have been reviewed by State of California Office of Ratepayer Advocates and the California Energy Commission and have always withstood scrutiny.

#### 3.1 PGE Programs

R&A proposes to provide EM&V services to the following three PG&E programs listed in Table 1.

**Table 1. PG&E Programs**

| Energy Division<br>Proposal Reference<br>Number | Proposal Sponsor | Program Title            | IOU<br>Service<br>Territory |
|---|------------------|--------------------------|-----------------------------|
| 11-02   | PG&E             | School Resources Program | PG&E                        |
| 19-02   | PG&E             | Pacific Energy Center    | PG&E                        |
| 15-02   | PG&E             | Energenius               | PG&E                        |

Note that Angela Jones of Vanward Consulting and Kathleen McElroy of XENERGY are also expected to be involved in evaluating the School Resources Program and the Energenius Program. Their resumes and the qualifications are provided in Attachment B.

##### 3.1.1 Independence From PG&E

R&A has never had any direct relationship with PG&E. The relationship has only been indirect, working as a subcontractor to other firms such as SBW Consulting and Equipoise Consulting (see list below) who were directly under contract to PG&E. No factors could be identified that might lead a reasonable person to question whether R&A is actually independent of the PG&E.

##### 3.1.2 Reasons for Non-Selection

R&A can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the School Resources and Energenius Programs.

##### 3.1.3 Past Work with PG&E

- Under contract to Equipoise Consulting during 2001-02, R&A participated in the evaluation Pacific Gas & Electric's Stand Alone Attic Ventilation Pilot Program.
- Under contract to Equipoise Consulting during 2001-02, R&A participated in the evaluation Pacific Gas & Electric's Presidio Trust Summer Initiative Impact Evaluation.

- Under contract to Equipoise Consulting during 2000-01, R&A participated in the evaluation of Pacific Gas & Electric's School-Based Energy Conservation Programs.
- Under contract to Equipoise Consulting during 2000-01, R&A participated in the third year retention study of Pacific Gas & Electric Company's 1996 and 1997 Energy Efficiency Incentives Program, Agricultural Sector Measures.
- Under contract to Equipoise Consulting during 1998-99, R&A participated in the evaluation of Pacific Gas & Electric's Food Service Technology Center.
- Under contract to SBW Consulting during 1997-98, R&A participated in the evaluation of Pacific Gas & Electric's 1996 Industrial Energy Efficiency Incentives Program.
- Under contract to SBW Consulting during 1996-97, R&A participated in the evaluation of Pacific Gas & Electric's 1995 Industrial Energy Efficiency Incentives Program.
- Under contract to SBW Consulting during 1995-96, R&A participated in the evaluation of Pacific Gas & Electric's Commercial HVAC Impact Program.

### **3.2 Southern California Edison (SCE) Programs**

R&A proposes to provide EM&V services to the following two SCE programs listed in Table 2.

**Table 2. SCE Programs**

| Energy Division<br>Proposal Reference<br>Number | Proposal Sponsor | Program Title                             | IOU Service<br>Territory |
|---|------------------|---|--------------------------|
| 37-02   | SCE              | Residential In-Home Energy Survey Program | SCE                      |
| 42-02   | SCE              | Pump Tests & Hydraulic Services Program   | SCE                      |
| 43-02   | SCE              | Demonstration and Information Transfer    | SCE                      |

#### **3.2.1 Independence from SCE**

R&A has never had anything other than a business relationship with SCE. These business relationships all involved short-term contracts to evaluate specific energy efficiency programs. No factors could be identified that might lead a reasonable person to question whether R&A is actually independent of the SCE.

R&A can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the Compressed Air management Program.

#### **3.2.2 Past Work with SCE**

- Under contract to SCE in 2001, R&A conducted the verification audit of SCE's PY 2001 Energy Efficiency Programs.

- Under contract to SCE in 2001-02, R&A conducted the evaluation of SCE's PY 2000 Residential Audit Programs.
- Under contract to SCE in 2000-01, R&A conducted the evaluation of SCE's PY 2000-01 School-Based energy efficiency programs.
- Under contract to SCE in 1999-00, R&A evaluated SCE's PY 1999-00 Emerging Technology Program.
- Under contract to SCE in 1998-99, R&A evaluated SCE's 1997 Industrial Energy Management Hardware Rebate Program.
- Under contract to SCE in 1998-99, R&A evaluated SCE's 1997 DSM Bidding Program.
- Under contract to SCE in 1999, R&A designed and implemented the samples to support SCE's Verification Study of the 1998 Commercial, Industrial, and Agricultural Energy Management Hardware Rebate Programs.
- Under contract to SCE in 1999, R&A designed and implemented the samples to support SCE's Verification Study of the 1998 Standard Performance Contracting Program.
- Under contract to SCE in 1997-98, R&A evaluated SCE's 1996 DSM Bidding Program.
- Under contract to SCE in 1998, R&A designed and implemented the samples to support SCE's Verification Study of SCE's 1997 Commercial, Industrial, and Agricultural Energy Management Hardware Rebate Programs.
- Under contract to SCE in 1997-98, R&A evaluated SCE's 1996 Industrial Energy Management Hardware Rebate Program.

### ***3.3 Alliance to Save Energy Program***

R&A proposes to provide EM&V services to the following program listed in Table 3.

**Table 3. Alliance to Save Energy Program**

| Energy Division<br>Proposal Reference<br>Number | Proposal Sponsor        | Program Title                    | IOU<br>Service<br>Territory |
|---|-------------------------|----------------------------------|-----------------------------|
| 142AB-02  | Alliance to Save Energy | Green Schools, Green Communities | SCE/PGE                     |

Note that Angela Jones of Vanward Consulting and Kathleen McElroy of XENERGY are also expected to be involved in the evaluating the Green Schools Program and the Green Communities Program. Their resumes and qualifications are provided in Attachment B.

### **3.3.1 Independence from the Alliance to Save Energy**

R&A has never had any formal relationship with the Alliance to Save Energy. The relationship was only indirect and involved the evaluation of the Green Schools Program, under contract to SCE. No factors could be identified that might lead a reasonable person to question whether R&A is actually independent of the Alliance to Save Energy.

### **3.3.2 Reasons for Non-Selection**

R&A can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the Green Schools and Green Communities Programs.

### **3.3.3 Past Work with the Alliance to Save Energy**

Under contract to SCE, R&A evaluated the Alliance to Save Energy's PY 2000-2001 Green Schools Program that was offered in the SCE service territory.

## **3.4 SBW Program**

R&A proposes to provide EM&V services to the following SBW program listed in Table 4.

**Table 4. SBW Program**

| <b>Energy Division<br/>Proposal Reference<br/>Number</b> | <b>Proposal Sponsor</b> | <b>Program Title</b>              | <b>IOU<br/>Service<br/>Territory</b> |
|--|-------------------------|-----------------------------------|--------------------------------------|
| 97A-02   | SBW Consulting, Inc.    | Compressed Air Management Program | PGE                                  |

### **3.4.1 Independence from SBW Consulting**

R&A has never had anything other than a business relationship with SBW consulting. These business relationships all involved short-term contracts to evaluate specific energy efficiency programs.

No factors could be identified that might lead a reasonable person to question whether R&A is actually independent of the SBW Consulting.

### **3.4.2 Reasons for Non-Selection**

R&A can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate SBW's Compressed Air management Program.

### 3.4.3 Past Work with SBW

- Under contract to SBW Consulting in 1997-98, R&A participated in the evaluation of Pacific Gas and Electric's 1996 Industrial Energy Efficiency Incentives Program.
- Under contract to R&A, SBW Consulting participated in the evaluation of DSM programs implemented by the Korea Electric Company. R&A was under contract to the Korea Energy Economics Institute in 1996-97 to perform this work.
- Under contract to SBW Consulting in 1996-97, R&A participated in the evaluation of Pacific Gas and Electric's 1995 Industrial Energy Efficiency Incentives Program.
- Under contract to SBW Consulting during 1995-96, R&A participated in the evaluation of Pacific Gas & Electric's 1994 Commercial HVAC Program.

### 3.5 SDG&E Program

R&A proposes to provide EM&V services to the following SDG&E program listed in Table 5.

**Table 5. SDG&E Program**

| Energy Division<br>Proposal Reference<br>Number | Proposal Sponsor | Program Title          | IOU<br>Service<br>Territory |
|---|------------------|------------------------|-----------------------------|
| 64-02   | SDGE             | In-Home Audits Program | SDGE                        |

#### 3.5.1 Independence from SDG&E

R&A has never had any direct relationship with SDG&E. The relationship has only been indirect and involved the evaluation of the Statewide Residential Lighting and Appliance Program (CRLAP) while working as a subcontractor to XENERGY.

No factors could be identified that might lead a reasonable person to question whether R&A is actually independent of the SDG&E.

#### 3.5.2 Reasons for Non-Selection

R&A can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the SDG&E In-Home Audits Program.

#### 3.5.3 Past Work with SDG&E

R&A has been involved in the evaluation of only one SDG&E energy efficiency program. Under contract to XENERGY during 1999-2002, R&A participated in the four-phase evaluation of the California Residential Lighting and Appliance Program (CRLAP). During this time, XENERGY was under contract to SDG&E to evaluate the CRLAP.

### **3.6 San Diego Regional Energy Office Program**

R&A proposes to provide EM&V services to the following SDREO program listed in Table 6.

**Table 6. SDREO Program**

| <b>Energy Division<br/>Proposal Reference<br/>Number</b> | <b>Proposal Sponsor</b>          | <b>Program Title</b>                    | <b>IOU<br/>Service<br/>Territory</b> |
|--|----------------------------------|---|--------------------------------------|
| 306-02   | San Diego Regional Energy Office | San Diego K-12 Energy Education Program | SDG&E                                |

Note that Angela Jones of Vanward Consulting and Kathleen McElroy of XENERGY are also expected to be involved in evaluating the K-12 Energy Education Program. Their resumes and qualifications are provided in Attachment B.

#### **3.6.1 Independence From SDREO**

R&A has never had any direct or indirect relationship with the SDREO. R&A should, therefore, be deemed an independent EM&V contractor. In addition, we can think of no factors that might lead a reasonable person to question whether R&A is actually independent of the SDREO.

#### **3.6.2 Reasons for Non-Selection**

Finally, we can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the San Diego K-12 Energy Education Program.

#### **3.6.3 Past Work with SDREO**

R&A has never performed any work, either directly or indirectly, for the SDREO.

### **3.7 State and Consumer Services Agency (SCSA)**

R&A proposes to provide EM&V services to the following SCSA program listed in Table 7.

**Table 7. SCSA Program**

| <b>Energy Division<br/>Proposal Reference<br/>Number</b> | <b>Proposal Sponsor</b>            | <b>Program Title</b>                   | <b>IOU<br/>Service<br/>Territory</b> |
|--|------------------------------------|--|--------------------------------------|
| 177-02   | State and Consumer Services Agency | K-12 Schools Energy-Efficiency Program | PGE                                  |

Note that Angela Jones of Vanward Consulting and Kathleen McElroy of XENERGY will also be involved in evaluating the K-12 Schools Energy-Efficiency Program. Their resumes and qualifications are provided in Attachment B.



### **3.7.1 Independence From SCSA**

R&A has never had any direct or indirect relationship with the SCSA. R&A should, therefore, be deemed an independent EM&V contractor. In addition, we can think of no factors that might lead a reasonable person to question whether R&A is actually independent of the SCSA.

### **3.7.2 Reasons for Non-Selection**

Finally, we can think of no reasons (e.g., outstanding state tax liens, present or former bankruptcy, pending civil or criminal litigation, or other proceedings, license suspensions or other similar actions, or criminal convictions) why the CPUC might not select R&A to evaluate the K-12 Schools Energy-Efficiency Program.

### **3.7.3 Past Work with SCSA**

R&A has never performed any work, either directly or indirectly, for the SCSA.

### **3.8 Certificate of Service**

I, the undersigned, state that I am the Owner of Ridge & Associates, that I reside in the State of California, that I am over the age of eighteen (18); and that my business address is: Ridge & Associates, 3022 Thompson Ave., Alameda, CA 94501.

On the 2<sup>nd</sup> day of July 2002, the document entitled, "EM&V Contractor Qualifications and Notification of Interest," was mailed to the Commission's Docket Office in San Francisco with a copy to ALJ Thomas and via electronic mail to ALJ Thomas and all parties on the Service List of record (see Service List in Attachment C).

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 2<sup>nd</sup> day of July 2002.

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Richard Ridge, Ph.D

# **Attachment A**

## **Qualifications of**

**Ridge & Associates  
Richard S. Ridge, Ph.D.**

**3022 Thompson Avenue  
Alameda, CA 94501  
Phone: (510) 865-6011  
FAX: (510) 865-1057  
RSRIDGE@ATTBL.COM**

## **Background**

Richard Ridge, Ph.D., is President and Owner of Ridge & Associates (R&A). He has more than 20 years of experience conducting a wide variety of social science research. His expertise is in statistical analysis, sample design, research methods, evaluation research, decision analysis, organizational behavior, and forecasting. As Director of the Office of Research and Evaluation at the University of Southern California, he conducted both evaluation and market research studies before joining the Southern California Edison Company in 1982. While at Edison, in both the Customer Service and System Planning Departments, he evaluated energy conservation and load management programs, studied advertising effectiveness, conducted quality control studies, and forecasted customer growth, energy and demand, as well as a large number of economic variables. While at Edison, he continued to publish in a variety of professional journals and presented papers at numerous conferences. In 1992, he represented Edison in developing the *Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management (DSM) Programs* that set forth guidelines for evaluating DSM programs. During 1993 and 1994, he also chaired the Statistical and Engineering Modeling Subcommittee that reports to the California Demand-Side Management Measurement Advisory Committee (CADMAC).

After leaving Edison in 1993, he served for one year as Vice President of Pacific Consulting Services after which he founded Ridge & Associates. As president of R&A, he has continued to provide consulting support to such clients as Edison, the Pacific Gas & Electric Company, the CADMAC, San Diego Gas and Electric, the Southern California Gas Company, the Korea Energy Economics Institute, and the California Board for Energy Efficiency. During 1996, he served as the Chair of the Association of Energy Services Professionals' (AESP) Standards and Ethics Subcommittee. In 1997, he served as the Chair of the AESP Evaluation Topic Committee. Since 1997, he has continued to evaluate large-scale DSM programs, design samples, and conduct survey research.

He maintains a large network of other professionals representing a variety of fields such as engineering, economics, education, econometrics, market research, and forecasting. These elements have been and can be assembled into *full-service teams* to meet client needs on very large and complex projects.

## **A Broad Range of Experience**

Some relevant examples of this work are listed below:

1. 2002-Present: Currently, along with Equipoise Consulting, conducting a three-year evaluation of Kauai Electric's energy conservation programs.
2. 2002: Conducted a verification study of residential and nonresidential DSM programs implemented by the Southern California Edison Company during PY 2001.
3. 2002: Along with Equipoise Consulting, conducted the evaluation of Pacific Gas & Electric's Stand Alone Attic Ventilation Pilot Program.

4. 2001-2002: Conducted an evaluation of six different types of residential energy audit offered by the Southern California Edison Company in PY 2000.
5. 2001: Conducted an analysis of historical data from a variety of DSM programs including the Standard Performance Contracting (SPC) Program and recommended changes in the both the design of the SPC Program and the methods by which its performance is evaluated.
6. 1998-2002: Provided support to XENERGY, Inc. as the Project Manager of the Phase I evaluation of the California Residential Lighting and Appliance Program. Provided on going support to XENERGY in Phases II, III, and IV evaluations of the California Residential Lighting and Appliance Program.
7. 2000: Conducted a study that recommended new sampling methods for lighting measures installed through the California Nonresidential Standard Performance Contracting Program.
8. 1996-2000: Currently providing on-going support to SCE for the verification and evaluation of its energy conservation programs. Also providing advice on regulatory compliance and designing verification samples.
9. 1998-2000: Currently providing on-going support to Equipoise Consulting in the review of 1998-2002: Provided support to XENERGY, Inc. as the Project Manager of the Phase I evaluation of the California Residential Lighting and Appliance Program. Provided on going support to XENERGY in Phases II, III, and IV evaluations of the California Residential Lighting and Appliance Program.
10. 1994-2000: Currently providing on-going support to the CADMAC Subcommittee on Modeling Standards for End Use Consumption and Load Impact Models – Retrofit Programs. Worked includes the on-going development of the *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs* and the *Quality Assurance Guidelines* that set forth guidelines for evaluating DSM programs.
11. 1999: Provided consulting support to Strategy Analytics, Inc. in conducting customer choice analyses for the Motorola Corporation. Responsible for estimating nested logit models for Hong Kong and Brazil.
12. 1998-99: Managed all statistical analysis in the baseline and market characterization study of PG&E's Food Services Technology Center.
13. 1998-99: Managed all statistical analysis in PG&E's Commercial New Construction and Agricultural Retention Studies. Analyses involved the use of survival analysis techniques to create hazard functions and survival curves in order to re-estimate the effective useful lives of various efficiency measures.
14. 1998-99: Managed all statistical analysis as part of the comprehensive evaluation of SCE's 1997 Industrial Rebate Program. Responsibilities included development of the research plan, construction of data collection instruments, management of data collection, and various analyses designed to estimate net-to-gross ratios. Also prepared testimony as a part of the AEAP and negotiated with the CPUC Office of Ratepayer Advocates regarding SCE's earnings claim.

15. 1998-99: Evaluated the Southern California Edison Company DSM Bidding Program. Project involved estimating the net kWh and kW impacts of the Program through the use of both statistical and case study analyses.
16. 1998: Co-managed SCE project designed to evaluate and recommend portfolios of DSM programs to the California Board for Energy Efficiency. Worked closely with staff of the Lawrence Berkeley National Laboratory in providing direction to the study.
17. 1998: Designed the sample for the Southern California Gas Company's residential Duct Sealing and Verification Protocol for Mobile Homes as a part of its Residential Standard Performance Contract Program.
18. 1998: Designed the sample for San Diego Gas and Electric's 1998 Multi-Family Lighting Program.
19. 1998: Designed the sample for Southern California Gas Company's 1998 Showerhead Installation, Testing, Verification, and Retention Protocols as a part of its Residential Standard Performance Contract Program.
20. 1998: Designed and implemented the sample for the Verification Study of Southern California Edison's 1997 Commercial, Industrial, and Agricultural Energy Management Hardware Rebate Programs. The design involved the use of Delanious and Hodges technique in combination with Neyman optimal allocation.
21. 1997-98: Estimated the MW potential for an industrial interruptible load program for the Korea Energy Economics Institute. Worked included estimating various simulation models of customer participation under different assumptions. Results used by the Korea Electric Company in planning an interruptible program.
22. 1997-98: Managed all statistical analysis as part of the comprehensive evaluation of SCE's 1996 Industrial Rebate Program. Responsibilities included development of the research plan, construction of data collection instruments, management of data collection, and various analyses designed to estimate net-to-gross ratios. Also prepared testimony as a part of the AEAP and negotiated with the CPUC Office of Ratepayer Advocates regarding SCE's earnings claim.
23. 1997-98: Managed all statistical analysis as part of the comprehensive evaluation of PG&E's 1996 Industrial Rebate Program. Responsibilities include development of the research plan, construction of data collection instruments, management of data collection, and various analyses designed to estimate net-to-gross ratios. Also prepared testimony as a part of the AEAP and negotiated with the CPUC Office of Ratepayer Advocates regarding PG&E's earnings claim.
24. 1996-97: Managed all statistical analysis as part of the comprehensive evaluation of PG&E's 1995 Industrial Rebate Program. Responsibilities include development of the research plan, construction of data collection instruments, management of data collection, and various analyses designed to estimate net-to-gross ratios. Also

prepared testimony as a part of the AEAP and negotiated with the CPUC Office of Ratepayer Advocates regarding SCE's earnings claim.

25. 1996: Managed all statistical analysis as part of the comprehensive evaluation of PG&E's 1994 Commercial HVAC Program. Responsibilities included development of the research plan, construction of data collection instruments, management of data collection, extraction and cleaning of all kWh, weather, and economic data, statistical analyses involving the use of multiple regression and nested logit models, and preparation of final report regarding SCE's earnings claim.
26. 1995: Managed all statistical analysis as part of the comprehensive evaluation of PG&E's 1992-93 Nonresidential New Construction Program. Responsibilities included development of the research plan, construction of data collection instruments, management of data collection, extraction and cleaning of all kWh, weather, and economic data, statistical analyses involving the use of multiple regression and nested logit models, and preparation of final report.
27. 1995: Prepared the "Quality Assurance Guidelines for Statistical and Engineering Models" which set forth methodological standards for conducting evaluations of energy conservation programs. This report was sponsored by the CADMAC and published by the Association of Energy Services Professionals (AESP) in May of 1996.
28. 1995: Prepared the "The Measurement and Evaluation of DSM Programs: A Training Program for the Korea Energy Economics Institute," sponsored by the Korea Energy Economics Institute October.

### **Professional References**

References available upon request.

## **RESUME**

**Richard S. Ridge, President  
Ridge & Associates  
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Alameda, CA 94501  
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### **Summary of Experience**

Work experience in:

- Statistical analysis
- Research methods
- Survey research
- Evaluation of energy conservation programs
- Evaluation of load management programs
- Forecasting
- Decision analysis
- Evaluation of educational programs
- Market research
- Evaluation of market transformation programs
- Testifying at regulatory DSM proceedings
- Preparing regulatory testimony
- Strategic DSM planning
- Integrated resource planning
- Project management

### **Work Experience**

**2/95 - Present**

**President, Ridge & Associates, Alameda, California**

Responsible for market research, impact and process evaluations of energy conservation, load management, and market transformation programs, as well as DSM and business forecasting. Also, provide on-going consulting for the California DSM Measurement Advisory Committee, XENERGY, Inc., the Southern California Edison Company, and the Korea Energy Economics Institute.

**3/94- 2/95**

**Vice President, Pacific Consulting Services, Albany, California**

Responsible for impact and process evaluation of energy conservation and load management programs, DSM and business forecasting, and market research. Also responsible for proposal preparation, marketing, and project management.

**8/91 - 2/94**

**Southern California Edison Co., Rosemead, California**

Supervisor, Nonresidential DSM Evaluation, Energy Efficiency and Marketing Services (EE&MS) Department

Primary responsibility for the evaluation of all conservation and load management programs as well as electro-technologies. This includes the evaluation of net effects, cost-effectiveness and implementation. Provide evaluation consultation on such issues as demand-side bidding and integrated resource planning. Prepare testimony regulatory forums. Represented Edison at the Measurement and Evaluation Workshops and the hearings that followed that were a part of the DSM OII/OIR conducted by the California Public Utilities Commission. Represent Edison on the California DSM Measurement and Advisory Committee. Chair the Statewide Study on Modeling Standards for End-Use Consumption and Load Impact Models. Also serve on the state-wide Persistence and Base Efficiency Studies.

**6/89 - 8/91**

**Southern California Edison Co., Rosemead, California**

Planning Engineer, Engineering, Planning and Research Department

Primary responsibility for developing plans for the strategic use of conservation and load management in system planning. Also responsible for long-rang DSM forecast as well as the integration of demand-side and supply-side resources. Participated in the development of the "Measurement Protocols For DSM Programs Eligible For Shareholder Incentives."

**1/87 - 6/89**

**Southern California Edison Co., Rosemead, California**

Forecast Specialist, System Planning and Research Department

Primary responsibility for forecasting economic variables such as personal income and gross state product for California. Also responsible for the forecasting of customers by rate class for the Edison service territory as well as the small-area forecasting of electricity demand.



- 10/82 - 1/87**      **Southern California Edison Co., Rosemead, California**
- Research Analyst, System Development Department
- Primary responsibility for the evaluation of conservation and load management programs as well as the systematic examination of alternative resource plans. Also the direction and design of quality control studies.
- 2/82 - 10/82**      **Management Consultant, Pasadena, California.**
- Provide consultation in organizational development, evaluation, data processing and grantsmanship.
- 7/79 - 2/82**      **University of Southern California, College of Continuing Education, Los Angeles, California**
- Director, Office of Research and Evaluation
- Direct all evaluation and market research within the College. Conduct all statistical analysis. Provide technical assistance in planning and proposal development.
- 7/78 - 7/79**      **University of Southern California, College of Continuing Education, Los Angeles, California**
- Research and Evaluation Specialist, Office of Research Services
- Direct all evaluations of government and private foundation funded programs within the College. Also responsible for the conduct of organizational diagnostic studies, systems analysis projects and all statistical analysis. Provide technical assistance to others within the College in the development and preparation of proposals to government agencies and private foundations.
- 7/76-7/78**      **University of Southern California, College of Continuing Education, Los Angeles, California**
- Research Associate, Office of Program, Research and Development
- Evaluate educational programs and courses. Write proposals and manage government project budgets. Conduct negotiations with funding agencies.
- 8/75-7/76**      **University of Southern California, College of Continuing Education, Los Angeles, California**
- Teaching Assistant, Office of Program Research and Development
- Evaluate instructional programs. Research private foundations and government agencies to identify funding opportunities.

## **Education**

Ph.D. in Public Administration, 1981, University of Southern California.  
MPA in Public Administration, 1978, University of Southern California  
B.A. in English, 1968, Marian College, Indianapolis, Indiana.

## **Selected Publications, Papers and Presentations**

Ridge, Richard. "Recent Methodological Advances in Estimating Net-To-Gross Ratios Based on the Self Reports of Program Participants." In preparation, December 2002.

Ridge, Richard. "Random Error in Regression Models." In preparation, November 2002.

Ridge, Richard. "Sample Size in DSM Evaluation: A Primer on Power Analysis." In preparation, October, 2002.

Ridge, Richard. "Evaluating Emerging Technology Programs: Unique Challenges and Opportunities." A paper presented at the International Energy Program Evaluation Conference, August, 2001.

Ridge, Richard and Kathleen McElroy. "Testing the Causal Linkage Between Training of Sales Personnel in Retail Lighting and Appliance Stores and Changes in Market Share of ENERGY STAR<sup>®</sup>-Qualifying Equipment." A paper presented at the International Energy Program Evaluation Conference, August, 2001.

Sebold, Frederick, Alan Fields, Susan Bortstein, Phong Vu, Rachel Weber, Richard Pulliam, and Richard Ridge. "Tracking Market Shares of High Efficiency Measures in California's Residential Sector." A paper presented at the International Energy Program Evaluation Conference, August, 2001.

Ridge, Richard. "A Theory-Based Evaluation of the 1999 California Residential Lighting and Appliance Program." A paper presented at the American Council for and Energy Efficient Economy Conference in August, 2000.

Caulfield, Tim, Richard Ridge, Mary Sutter, and Valerie Richardson. "Pacific Gas & Electric's 1998 Food Service Technology Center Market Effects Study." A paper presented at the American Council for and Energy Efficient Economy Conference in August, 2000.

Barnes, Rich, Kenneth Train, Mike Rufo, and Richard Ridge. "The Use of Qualitative Choice Analysis in Forecasting." A presentation at the EPRI Forecasting Conference, March 1999.

Ridge, Richard, Sam Cohen, and Marc Schuldt. "Strategies for Aggregating Small Commercial and Industrial Customers for Participation in PG&E's Standard Performance Contracting Program." Presentation given at PG&E's Learning Center in November, 1998.

Ridge, Richard. "Measurement Error in SAE Models: Close Encounters of the Third Kind." Paper presented at the National Energy Program Evaluation Conference, August, 1997.

Baker, Michael and Richard Ridge. "A Comprehensive Evaluation of PG&E's 1995 Industrial Incentive Program." Paper presented at the National Energy Program Evaluation Conference, August, 1997.

Ridge, Richard. "Billing Analysis, Discrete Choice Analysis, and Related Issues." A presentation made to the CADMAC Fall Forum in November, 1996.

Ridge, Richard. "Self-Selection: A Brief CADMAC History and Current Concerns." A presentation made to the CADMAC in October, 1996.

Baker, Mike and Richard Ridge. "A Comprehensive Evaluation of a Commercial Rebate Program." A paper presented at the American Council for and Energy Efficient Economy Conference in August, 1996.

Randazzo, Katherine and Richard Ridge. "How Many Mills Ratios Does It Take to Estimate Net Impacts?" A paper to be presented at the American Council for and Energy Efficient Economy Conference in August, 1996.

Ridge, Richard, Dan Violette and Don Dohrman. "Quality Assurance Guidelines for Statistical and Engineering Models." Published by the Association of Energy Services Professionals (AESP), May, 1996.

Ridge, Richard, Kirtida Parikh, Dan Violette and Don Dohrman. "An Evaluation of Statistical and Engineering Models for Estimating Gross Energy Impacts." Published by the Association of Energy Services Professionals (AESP), May, 1996.

Ridge, Richard and Bruce Mast. "The New Construction Conundrum: Without a Baseline, How Can There Be a Gross?" Presented at the National Energy Program Evaluation Conference in Chicago, August 22, 1995.

Ridge, Richard, Dan Violette, John Peterson, and Don Dohrman. "Standards for Measurement and Evaluation: The California Experience," Presented at the DA/DSM Conference in San Jose, California on January 24, 1995.

Atherton, Terry, Caroline Chen, Richard Ridge, and Kenneth Train. "A Model of appliance Efficiency Choice Using Stated and Revealed Preference Data." A paper presented at ACEEE Summer Study on Energy Efficiency in Buildings, 1994.

Ridge, Richard, Dan Violette and Don Dohrman. "Quality Assurance Guidelines for Statistical and Engineering Models." Report prepared for the California Demand-Side Management Advisory Committee: The Subcommittee on Modeling Standards for End-Use Consumption and Load Impact Models, November, 1994.

Ridge, Richard. "The Table 11 Test: Results of Edison's Experience." Paper presented at the California DSM Measurement Advisory Committee Fall Forum held in Folsom, California, June 1994.

Ridge, Richard, Kirtida Parikh, Dan Violette and Don Dohrman. "An Evaluation of Statistical and Engineering Models for Estimating Gross Energy Impacts." Report prepared for the California Demand-Side Management Advisory Committee: The Subcommittee on Modeling Standards for End-Use Consumption and Load Impact Models, June 1994.

Ridge, Richard. "Comparison of Other Utility Experiences with Table 11 Requirements." Served as chair of a panel at the California DSM Measurement Advisory Committee Fall Forum held in Folsom, California, June 1994.

Ridge, Richard. "An Analysis of Table 11 in the Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs." A report prepared for the Southern California Edison Company, March, 1994

Ridge, Richard. "Commercial Gross Impacts Reconciliation." Paper presented at the California DSM Measurement Advisory Committee Fall Forum held in Aptos, California, November 4, 1993.

Ridge, Richard. "Nonresidential Retrofit Measurement Issues." Served as chair of a panel at the California DSM Measurement Advisory Committee Fall Forum held in Aptos, California, November 4, 1993.

Ridge, Richard, and Katherine V. Randazzo. "Overview and Analysis Plan for Estimating Gross Impacts in the Commercial Sector." Report submitted to the California Public Utilities Commission, September, 1993.

Ridge, Richard. DSM Measurement And Monitoring. Presentation given in Santa Fe, New Mexico at the Integrated Resource Planning Training Series sponsored by the Western Area Power Administration on September 1, 1993.

Ridge, Richard, "Achieving Consistency Among Multiple Estimates of DSM Savings." Paper given at the National Energy Program Evaluation Conference held in Chicago on August 24-27, 1993.

Ridge, Richard, "Triangulation and Budget Constraints in the Evaluation of Large Non-Residential DSM Programs." Paper given at the National Energy Program Evaluation Conference held in Chicago on August 24-27, 1993.

Ridge, Richard. "DSM Evaluation and Monitoring." Presentation given in San Francisco at the Integrated Resource Planning Training Series sponsored by the Western Area Power Administration on April 16, 1992.

Ignelzi, Patrice, Bruce Mast, Richard Ridge, Taghi Alereza and Kenneth Train, "Program Impact Evaluation: Adding Engineering Estimates to the Equation." Paper presented at the 6th National Demand-Side Management Conference held on March 24-26 in Miami Beach, Florida.

Ridge, Richard. "Evaluation Plan for the Commercial, Industrial and Agricultural Hardware Rebate Program," Paper presented at the California Utility Research Council Conference held in Monterey, California, April 7, 1992.

Ridge, Richard and Ishtiaq Chisti. "Common Forecasting Methodology IX: Demand Forms," Submitted by the Southern California Edison Company to the California Energy Commission on July 15, 1991.

Chisti, Ishtiaq, Richard Ridge and Arthur Canning, "DSM Forecasting for Integrated Resource Planning." Paper presented at the conference, "Forecasting: The Foundation of Planning," held in Baltimore, Maryland, October 23-25, 1991.

Richard Ridge, "Sample Design For The 1991 Commercial, Industrial and Agricultural Energy Use Survey," Paper presented at the California Utility Research Council Conference held in San Diego, California, September 26 & 27, 1991.

Ridge, Richard, Gary Stern and Ronald K. Watts. "Econometric Model Evaluation: Implications for Program Evaluation," Evaluation Review, June, 1990.

Hoover, Michael, James Garces and Richard Ridge. "Demand-Side Bidding: A Practical View." Paper to be presented at the conference, *Enhancing Electricity's Value To Society*, held in Toronto, Canada on October 22-24, 1990.

Ignelzi, Patrice C. and Richard Ridge. "The Evolution of Rebate Programs: From Conservation to Customer Service Through Demand-Side Management." Paper presented at the conference, Demand-Side Management, held in Cincinnati, Ohio, May 2-4, 1989.

Stern, Gary, Pam Sorooshian, Richard Ridge and Ronald K. Watts. "Reducing Household Electricity Consumption Peaks," Sociology and Social Research, July, 1988.

Ridge, Richard. "Energy Conservation for Low-Income Families: The Evaporative Cooler Experience," Evaluation Review, April, 1988.

Ridge, Richard and Ronald K. Watts. "Reducing Dependence on Central Electric Heating Systems: An Evaluation of an Experimental Program," Evaluation Review, June 1987.

Ridge, Richard. "An Analysis of Various Types of Home Energy Audits," Evaluation Review, June 1986.

Ridge, Richard. "An Evaluation of One Warm Room: An Experimental Program Designed to Determine the Effect of a Portable Electric Heater on kWh Consumption in Houses with Central Electric Heating," proceedings from the ACEEE 1984 Summer Study on Energy Efficiency in Buildings, Volume K: Improving Methods of Program Evaluation (Special Topics), August 1984.

### **Selected Research Reports**

Ridge, Richard. "Evaluation of Southern California Edison's Residential Audit Programs: Final Report." Submitted to the Southern California Edison, June 2002.

Ridge, Richard. "Improving the Standard Performance Contracting Program: An Examination of the Historical Evidence and Directions for the Future." Submitted to the Southern California Edison, November 2001.

Caulfield, Tim, Mary Sutter and Richard Ridge. "Final Report for Pacific Gas & Electric's Stand Alone Attic Ventilation Pilot Study." Submitted to the Pacific Gas & Electric, April 2002.

Caulfield, Tim, Mary Sutter and Richard Ridge. "The Presidio Trust Summer Initiative Impact Evaluation." Submitted to the Pacific Gas & Electric, March 2002.

Ridge, Richard, Mary Sutter, and Tim Caulfield. "Evaluation of Pacific Gas & Electric Company's School-Based Programs." Submitted to the Pacific Gas & Electric, November 2001.

Ridge, Richard and Angela Jones. "Evaluation of Southern California Edison's School-Based Programs." Submitted to the Southern California Edison, August 2001.

Caulfield, Tim, Mary Sutter and Richard Ridge. "Final Report for Southern California Gas Company's 1998 Energy Edge Program Impact Evaluation." Submitted to the Southern California Gas Company, April 2001.

Caulfield, Tim, Mary Sutter and Richard Ridge. "Third Year Retention Study of Pacific Gas & Electric Company's 1996 and 1997 Energy Efficiency Incentives Program, Agricultural Sector Measures: PG&E Study ID Number 354R1, 385R1, 335AR1, 335BR1, 335CR1." Submitted to the Pacific Gas & Electric Company, March 2001.

Ridge, Richard. "Evaluation of Southern California Edison's Emerging Technology Program." Submitted to the Southern California Edison, December 2000.

Ridge, Richard. "The Phase I Evaluation of the California 1999 Residential Lighting and Appliance Program." Submitted to the San Diego Gas & Electric Company October 1999.

Ridge, Richard. "Evaluation of PG&E's Food Service Technology Center." Submitted to the Pacific Gas & Electric Company March 1999.

Ridge, Richard. "The Examination of Commercial Customers' Choice of Electricity Suppliers Using Qualitative Choice Analysis." Prepared for XENERGY Inc., March 1999.

Ridge, Richard, Katherine Randazzo, and Richard Sterrett. "Evaluation of Southern California Edison's 1997 Industrial Energy Management Hardware Rebate Program." Submitted to the Southern California Edison Company March 1, 1999.

Ridge, Richard and Katherine Randazzo. "Evaluation of the Southern California Edison Company 1997 DSM Bidding Program." Submitted to the Southern California Edison Company, March 1, 1999

Ridge, Richard. "Sample to Support Southern California Edison's Verification Study of the 1998 Commercial, Industrial, and Agricultural Energy Management Hardware Rebate Programs." Submitted to the Southern California Edison Company, March 10, 1999.

Ridge, Richard. "Sample to Support Southern California Edison's 1998 Standard Performance Contracting Program." Submitted to the Southern California Edison Company, March 5, 1999.

Ridge, Richard and Katherine Randazzo. "Evaluation of the Southern California Edison Company 1996 DSM Bidding Program." Submitted to the Southern California Edison Company, April 24, 1998

Ridge, Richard. "Sample to Support Southern California Edison's Verification Study of the 1997 Commercial, Industrial, and Agricultural Energy Management Hardware Rebate Programs." Submitted to the Southern California Edison Company, March 13, 1998.

Ridge, Richard, Katherine Randazzo, and Michael Baker. "Evaluation of Pacific Gas and Electric's 1996 Industrial Energy Efficiency Incentives Program." Submitted to PG&E February 23, 1998.

Ridge, Richard, Katherine Randazzo, and Richard Sterrett. "Evaluation of Southern California Edison's 1996 Industrial Energy Management Hardware Rebate Program." Submitted to the Southern California Edison Company, February 23, 1998.

Ridge, Richard, Michael Baker, and Katherine Randazzo. "Customer Load Control Evaluation To Confirm and Optimize Available Load Reduction." Submitted to the Korea Energy Economics Institute, July 1997.

Baker, Michael and Richard Ridge. "Evaluation of PG&E's 1995 Industrial Energy Efficiency Incentives Program," sponsored by the Pacific Gas & Electric Company, January, 1997.

Ridge, Richard, Robert Uhlaner, and Bing Xia. "Assessment of the Sampling Requirements Contained in the CPUC Measurement and Evaluation Protocols," sponsored by the California Demand-Side Management Advisory Committee, June, 1996.

SBW Consulting and Ridge & Associates. "1994 Commercial HVAC Impact Evaluation," sponsored by the Pacific Gas & Electric Company, March, 1996.

SBW Consulting and Ridge & Associates. "1992-93 Nonresidential New Construction Programs: Gross and Net Impact Analysis Incorporating Summer End-Use Metering Data," sponsored by the Pacific Gas & Electric Company, March 29, 1996.

SBW Consulting and Ridge & Associates. "1992-93 Nonresidential New Construction Programs: Statistical Analysis of Gross Impact," sponsored by the Pacific Gas & Electric Company, August 15, 1995.

Ridge, Richard. "The Measurement and Evaluation of DSM Programs: A Training Program for the Korea Energy Economics Institute," sponsored by the Korea Energy Economics Institute October, 1995.

Ridge, Richard. "Research Plan for the 1994 Commercial HVAC Impact Evaluation," sponsored the Pacific Gas and Electric Company, 1995.

Ridge, Richard. "Research Plan for the 1994 Commercial New Construction Impact Evaluation," sponsored the Pacific Gas and Electric Company, 1995.

Ridge, Richard. "Research Plan for the 1994 Industrial Impact Evaluation," sponsored the Southern California Edison Company, 1995.

Ridge, Richard. "Research Plan for the 1990 Commercial HVAC Impact Evaluation," sponsored the Southern California Edison Company, 1992.

"The 1989 Division Load Forecast, sponsored by the Southern California Edison Company, 1989

Ridge, Richard. "The 1989 A-Station Forecast," sponsored by the Southern California Edison Company, 1989.

Ridge, Richard. "The 1989 Customer and Meter Forecast," sponsored by the Southern California Edison Company, 1989.

Ridge, Richard. "Forecast of Economic Variables," sponsored by the Southern California Edison Company as part of its report to Public Utilities Commission concerning the Common Forecasting Methodology, 1987.

Ridge, Richard. "An Evaluation of the Air Conditioner Cycling Program to Determine the Net Load Management Effect," sponsored by the Southern California Edison Company, 1986.

Ridge, Richard. "An Experiment to Determine the Relative Effectiveness of Alternative Marketing Strategies for the RSVP Audit for Commercial and Industrial Customers," sponsored by the Southern California Edison Company, 1986.

Ridge, Richard. "An Analysis of Non-Response Bias Due to Unlisted Telephone Numbers Within the Edison Service Territory," sponsored by the Southern California Edison Company, 1986.

Ridge, Richard. "An Econometric Analysis to Determine the Net Effect of the Second Refrigerator Program," sponsored by the Southern California Edison Company, 1985.

Ridge, Richard. "Reasons for Non-Continuation of Former Students and Non-Registration of Those Who Inquired About Adult Education Classes," a market research report sponsored by the College of Continuing Education, University of Southern California, 1983.

Ridge, Richard. "A Survey and Assessment of the Department of the Army Basic Skills Education Program Phase II, as Conducted at Fort Lewis, Washington, 6 July - 3 September, 1982," an evaluation sponsored by the Department of the Army, 1982.

Ridge, Richard. "Fall 1981 Client Marketing Report," a market research report sponsored by the College of Continuing Education, University of Southern California, 1982.

Ridge, Richard. "Career Advisement, Adult Education and Network Training for Paraprofessional and Peer Counselors Who Work with Unemployed and Underemployed Indochinese Refugees," an evaluation sponsored by the California Postsecondary Education Commission, 1981.

Ridge, Richard. "A Training of Trainers Program for Adult Educators in Community Settings," an evaluation sponsored by the Office of Education, 1980.

Ridge, Richard. "Freshman Summer Experience," an evaluation sponsored by the College of Continuing Education, University of Southern California, 1980.

Ridge, Richard. "Community Organization Management Training Program," an evaluation sponsored by the California Postsecondary Education Commission, 1978.

### **Computer Skills**

IBM Mainframe Environment::

JCL/OS/MVS for IBM 3081, TSO, SPF/PDF, IBM Utilities, SAS, and SPSS.



PC Environment:

LISREL8, SAS, SPSS, Limdep, SST, Project, PowerPoint, Gauss, EXCEL,  
Forecast Pro, Word, POWER, Access, COMPASS, Cart, Visio, and TSP.

**Professional Activities**

**Consultant**, the Southern California Edison Company

**Member**, American Marketing Association

**Member**, American Management Association

**Member**, American Evaluation Association

**Member**, Association of Energy Services Professionals

## **Attachment B**

### **Qualifications & Resumes:**

**Angela Jones, Ph.D.  
Vanward Consulting**

**Kathleen McElroy, M.S.  
XENERGY, Inc.**

QUALIFICATIONS OF  
ANGELA JONES, PH.D.  
**VANWARD CONSULTING**

11245 183<sup>RD</sup> ST., PMB 249  
CERRITOS, CA 90703  
PHONE: (562) 868-4745  
FAX: (562) 868-4397  
AJONES@VWDCONSULTING.COM

## **Background**

Angela Jones, Ph.D., is Principal and Co-Owner of Vanward Consulting. She has more than 12 years of experience conducting a wide variety of economic and market analysis research. Her expertise is in applied microeconomics, public economics, and consumer and firm behavior, with the vast majority of her research work focused on energy efficiency and evaluation research. While working as an Assistant Economics Professor at Hampton University and in other capacities such as private consultant, she conducted both market analysis and assessment studies, before providing measurement and evaluation support services for the Southern California Edison Company beginning in 2000. While at Edison, in the Measurement and Evaluation Department, she managed and participated in the evaluation of several residential and non-residential energy efficiency programs, as well as provided measurement and evaluation support for the Low Income Energy Efficiency Programs. While at Edison, she also published through a variety of professional organizations including Association of Energy Service Professionals (AESP), American Council for an Energy Efficient Economy (ACEEE), and the International Energy Program Evaluation Conference (IEPEC). Vanward Consulting currently provides SCE with ongoing measurement and evaluation support for its energy conservation programs and its Low Income Energy Efficiency and CARE Programs.

Prior to working for Edison, she held various research and faculty positions. Her research includes working as a: 1) Research Analyst for the University of Michigan, in the Strategic Planning Department of the University Relations Office; 2) Faculty Fellow in the Marketing and Commercialization Department at the NASA Stennis Space Flight Center in Mississippi; and, 3) Research Consultant for A.H. Carter & Associates, Inc., a private research firm in Virginia. She has also held various faculty positions including: 1) Guest Instructor for the Economics Department at Pomona College in Claremont, California; 2) Economics and Policy Instructor for the University of Michigan Institute for Public Policy Studies Woodrow Wilson Summer Institute; 3) Assistant Economics Professor for the School of Business Administration at Hampton University in Virginia, where she also served as Interim chairperson; 4) Compensation Management Instructor for Marymount/Webster Weekend College Program in California; and, 5) Public Policy Instructor for the Harvey Mudd College Upward Bound Program.

She works with a large network of other professionals representing a variety of fields such as engineering, economics, education, econometrics, market research, statistical analysis, and forecasting. These elements can be assembled into full-service teams to meet client needs on both small and very large, complex projects.

## **A Broad Range of Experience**

Some relevant examples of this work are listed below:

29. 2002-present: Currently providing on-going measurement and evaluation support to SCE for its Low Income and energy conservation programs.
30. 2002-Present: Currently, managing for SCE a Joint Utility Study with XENERGY, Inc., to conduct an impact and process evaluation of the PY2001 Statewide Low Income Energy Efficiency Program.
31. 2001-Present: Assisting in a Joint Utility Study with Athens Research to develop a methodology for estimating the number of CARE-eligible customers in California and CARE penetration rates for the Statewide CARE program.
32. 2002 (ongoing): Serves in an advisory capacity for SCE's Low Income Energy Efficiency Program for a CPUC-managed study to conduct a Needs Assessment of the Low Income Population in California.
33. 2001-2002: For SCE, managed and participated in a study with Ridge & Associates to evaluate six different types of residential energy audits offered by the Southern California Edison Company in PY2000.
34. 2002: For SCE, participated in a Joint Utility Study with Equipoise Consulting to develop a cost effectiveness methodology for the Statewide Low Income Energy Efficiency Program.
35. 2000-2001, 2002: For SCE, participated in a Joint Utility Study with Equipoise Consulting to report and develop a methodology for calculating customer bill savings resulting from the Statewide Low Income Energy Efficiency Program.
36. 2001-2002: For SCE, managed a Joint Utility Study with XENERGY, Inc., to conduct an impact and process evaluation of the PY2000 Statewide Low Income Energy Efficiency Program.
37. 2002: Assisted Ridge & Associates in a verification study of residential and nonresidential DSM programs implemented by the Southern California Edison Company during PY 2001.
38. 2001: For SCE, managed and participated with Ridge & Associates in an evaluation of SCE's PY2000 Schools Programs.
39. 2000-2001: For SCE, managed and participated with Ridge & Associates in an evaluation of SCE's Design and Engineering Services PY2000 Emerging Technologies Program.
40. 2000-2001: For SCE, participated in a Joint Utility Study with TecMarket Works to develop non-energy benefits for the Statewide Low Income Energy Efficiency Program measures.
41. 2000-2001: For SCE, participated in a Joint Utility Study with Quantec, Inc., to develop a Pay-for-Measured Savings Pilot Study for the Statewide Low Income Energy Efficiency Program.
42. 2000-2001: For SCE, managed a study by XENERGY Inc., to conduct a feasibility study for SCE's Commercial Technology Application Center (CTAC) and Agricultural Technology Application Center (AgTAC).

43. 2000-2001: For SCE, managed and participated in a study with Pacific Consulting Services and Quantum Consulting to conduct a wants and needs assessment for Large Commercial and Industrial customers in California.
44. 2000: For SCE, managed a study by XENERGY Inc., to conduct a market assessment and baseline awareness study of SCE's Commercial Technology Application Center (CTAC) and Agricultural Technology Application Center (AgTAC).
45. 2000: For SCE, managed a study by KVDR Co., to estimate both the baseline recommendations implementation rate and the subsequent change in the recommendations implementation rate for SCE's Do-it-Yourself Energy Survey (Business Edge) Program.
46. 1994-1997, 1998: For A.H. Carter & Associates, designed and conducted an analysis of minority-owned business participation in the city procurement process for two major municipalities.
47. 1996: As a Faculty Research Fellow in the Marketing and Commercialization Department at the NASA Stennis Space Flight Center, conducted an examination of NASA's technology transfer system and the benefits of using electronic information systems to disseminate information.
48. 1992-1993: Conducted a study of the Cable Television Industry including a market analysis focusing on consumer demand and producer pricing behavior and an empirical demand analysis for cable television.
49. 1990: Working with the (then) Director of Strategic Planning in the University of Michigan's University Relations Office, developed an economic impact study of the University of Michigan on its surrounding community.

### **Professional References**

References available upon request.

**ANGELA B. JONES, PH.D.**  
**Vanward Consulting**

**RESUME**

**PERSONAL:**

- **Address:** 11245 183<sup>rd</sup> St., PMB 249  
Cerritos, CA 90703-5417  
(562) 868-4745  
ajones@vwcdconsulting.com
- **Birth Date:** September 7, 1966
- **Citizenship:** U.S.A.

**EDUCATIONAL BACKGROUND:**

- **Ph.D.** Economics, University of Michigan, 1993
- **M.A.** Economics, University of Michigan, 1990
- **B.A.** Mathematical Economics, Pomona College, 1988

**Fields Of Specialization:**

- Public Finance (Public Economics); Labor Economics.

**FELLOWSHIPS AND HONORS:**

- NASA/American Society of Engineering Education Faculty Fellowship, 1996
- National Science Foundation Minority Planning Grant, 1996 (unable to accept)
- J.D. Rolle and Associates Faculty Fellowship (Hampton University), 1993
- Rackham Research Partnership Fellowship (University of Michigan), 1990-91
- Rackham Minority Merit Fellowship (University of Michigan), 1988-90; 1991-92
- Lorne C. Cooke Memorial Award (Pomona College), 1988

**RESEARCH AND TEACHING INTERESTS:**

- **Research Interests:** Applied microeconomics, theoretical and empirical analysis of public economics and labor economics, consumer behavior, industrial organization, information economics, economic/business development, minority education in economics.
- **Teaching Interests:** Microeconomic theory, public economics, labor economics.

## **PROFESSIONAL EXPERIENCE:**

### **Business and Research Experience**

**Project Manager and Market Analyst, Measurement and Evaluation, Southern California Edison Company (Independent Consultant, Vanward Consulting),** January 2002 – present. Provide ongoing measurement and evaluation support for SCE's energy conservation and Low Income programs. Responsibilities include, but are not limited to: serving as SCE's representative at Low Income Energy Efficiency meetings; managing the statewide impact and process evaluations of the 2000 and 2001 LIEE programs; coordinating statewide evaluation studies with the other California IOUs, often requiring input from staff at the CPUC and the public; managing SCE-specific measurement and verification (M&V) studies, which entails completing M&V studies, working with another consultant to complete M&V studies, or overseeing another consultant's work; assisting in preparing SCE's responses to questions posed by regulatory staff and other stakeholders and possibly making presentations to CPUC staff, stakeholders, and the public in response to questions posed by regulatory staff; preparing initial research plans and Requests For Proposals; participating in the evaluation of submitted proposals in response to Requests For Proposals; and, meeting the purchase order responsibilities for assigned projects.

**Project Manager and Market Analyst, Measurement and Evaluation, Southern California Edison Company (Contract Employee),** January 2000 – December 2001. Responsibilities included, but were not limited to: serving as SCE's representative at Low Income Energy Efficiency meetings; managing the statewide impact and process evaluation of the 2000 LIEE program; coordinating statewide evaluation studies with the other California IOUs, often requiring input from staff at the CPUC and the public; managing various SCE-specific energy efficiency program evaluations, assisting in preparing SCE's responses to questions posed by regulatory staff and other stakeholders; preparing initial research plans and Requests For Proposals; participating in the evaluation of submitted proposals in response to Requests For Proposals; and meeting the purchase order responsibilities for assigned projects.

**Research Consultant, A.H. Carter & Associates, Inc.,** November 1994 – May 1997, May-June 1998. Worked on a private consulting project to analyze the participation of minority-owned businesses in the city procurement process for two major municipalities. At a later date, the final joint research report was revised to present the study results separately for each municipality. Assignment responsibilities included: evaluating the city and state procurement processes and regulations; developing survey instruments; interviewing contractors and city officials; designing and completing the statistical analysis; writing the final research reports and executive summaries; and, presenting the study findings to city planners/officials and business owners at various stages of the study process.

**Faculty Fellow, Marketing and Commercialization, NASA Stennis Space Flight Center, MS,** Summer, 1996. Conducted an examination of NASA's technology transfer program and of the general aspects of technology transfer, giving particular emphasis to the benefits of using electronic information systems to disseminate information. The objective was to examine the advantages of maintaining and using computer databases to affect outreach to potential industry partners and thus improve the effectiveness of the technology transfer program. Consideration was given to the participation of small businesses in the technology transfer process and to developing effective methods for the commercialization of public technology using electronic information systems.



**Research Analyst, University Relations, University of Michigan, 1990 – 1991.** Worked with Frank Williams, (then) Director of Strategic Planning. Primary responsibility entailed developing an economic impact study of the University of Michigan on its surrounding community.

**Research Fellow, Rackham Research Partnership Program, University of Michigan, 1990 – 1991.** Conducted work with Professor Ted Bergstrom on the cable television industry.

**Research Assistant, Department of Economics, University of Michigan, Summer, 1990.** Worked on theoretical applications of location problems.

### **Academic Related Experience**

**Instructional Designer, University Access, July 1999 – December 1999.** Responsible for designing and writing the online courseware and supplementary student guide for a distance learning web course in Accounting.

**Instructor, Marymount/Webster Weekend College Program, Fall, 1999.** Served as an instructor for the weekend college program, teaching a course in Compensation Management. The course analyzed the labor market and insights into socioeconomic-political institutions that influence wage and salary administration, methods of building an adequate and equitable compensation package in order to attract and retain competent employees, reward merit and accomplishments, and provide incentives for development.

**Instructor, Staff Member, Upward Bound Program, July – August 1997.** Served as the public policy instructor for the Upward Bound Program (Harvey Mudd College). Responsibilities included: developing the curriculum for and teaching an introductory course in public policy (focusing on California State Government); assessing student performance; and, facilitating student internships.

**Assistant Professor, School of Business Administration, Department of Economics, Hampton University (HU), 1993 – 1996.** Served as instructor for the following courses: Microeconomics Principles, Intermediate Microeconomic Theory, Labor Economics, Public Economics, and, an economics survey course for MBA students. Also, served on various committees and as the advisor of the Economics Club.

**Faculty Associate, Foundation for American Communications, Summer, 1994 and 1995.** A faculty participant in the ‘Economics for Media Specialists Conference Series’, a seminar designed to teach economics to communications professionals so as to improve the quality and accuracy of the economic content in media reporting.

**Instructor, Woodrow Wilson Summer Institute for Public Policy, Institute for Public Policy Studies, University of Michigan, Summer, 1993.** Served as an economics/public policy instructor for the summer policy institute. Duties included: teaching, evaluating student performance, and advising student research projects.

**Visiting Instructor, Department of Economics, Pomona College, 1992 – 1993.** Served as instructor for the following courses: Microeconomics Principles and Public Economics. Also, served on the search committee to hire an assistant director for the Office of Campus Life.

**Teaching Assistant, School of Business Administration, University of Michigan, Summer, 1992 and 1993.**

## **Appointments**

**Advisory Board Member, Hampton University Honors College, 1995 – 1996.** Served in an advisory position to the director of the Honors College to develop a core curriculum, standards, student handbook, and merit evaluation guidelines.

**Member, HU School of Business Administration Accreditation Review Committee, 1995 – 1996.** Responsibilities included evaluating the core curriculum of the School of Business Administration in preparation to submit a bid for accreditation from the AACSB Business Professional Organization.

**Interim Chairperson, School of Business Administration, Department of Economics, Hampton University, Fall, 1994.** Served as the interim chairperson for the economics department. Duties included: reviewing faculty performance, advising students, managing the departmental budget, scheduling courses, and representing the economics department at the School and University levels.

**Member, Microeconomics Curriculum Committee, HU Department of Economics, 1993 – 1996.** (Served as chairperson, 1994-1995). Responsibilities included assessing and developing the microeconomics curriculum and departmental course objectives.

## **ARTICLES:**

### **Published:**

- Angela Jones, Shel Feldman, Pierre Landry, Michael Sedmak, and Marissa Meyers, “A Novel Method for Assessing Large Customer Wants and Needs.” *International Energy Program Evaluation Conference, Proceedings*. August 2001.
- Richard Ridge, Angela Jones, Pierre Landry, and Gregg Ander, “Evaluating Emerging Technology Programs: Unique Challenges and Opportunities.” *International Energy Program Evaluation Conference, Proceedings*. August 2001.
- Angela Jones, Shel Feldman, Pierre Landry, and Michael Sedmak, “Improving Program Designs for Large Customers: The Importance of Identifying Their Strategic Needs and Wants.” *American Council for an Energy-Efficient Economy, Conference Proceedings*. July 2001.
- Angela Jones, Shel Feldman, Pierre Landry, and Michael Sedmak, “What Do They Really Want? Identifying the Needs and Wants of Large Customers.” *11<sup>th</sup> National Energy Services Conference, Proceedings*. The Association of Energy Services Professionals International, December 2000.
- Maria Cancian, Angela Bills (Jones), and Theodore Bergstrom, “Hotelling Location Problems With Directional Constraints: An Application to Television News Scheduling”. *Journal of Industrial Organization* 43 no. 1 (March 1995): 121-124.

## **Unpublished:**

“Electronic Information Systems and Technology Transfer.” NASA/ASEE Summer Faculty Fellowship Program: Final Administrative Report, 1996.

“What Time is News Time? Hotelling Location Problems with a Directional Constraint.” Co-authored with Maria Cancian and Theodore Bergstrom, 1990.

## **Dissertation:** Economics of the Cable Television Industry

Essay 1: “An Economic Perspective of the Cable Industry: A Descriptive Essay”

### **3.9 Essay 2: “Consumer Learning and Producer Pricing Decisions for Cable Television”**

Essay 3: “An Empirical Demand Model for Cable Television”

## **ADDITIONAL INFORMATION:**

**National Science Foundation Minority Planning Grant**, April 1996. Using a qualitative dependent variable model to analyze whether there are differences in the selection patterns of top minority students versus top white students in their choice of undergraduate major. The intent was to develop a systematic analysis to examine why there is an under-representation of minorities in economics, particularly at the graduate and professional levels, and to later develop “pipeline” (K-12) programs geared toward increasing the number of minorities who major in economics at the undergraduate level. (Unable to accept).

**Test Writer**, December 1994 – January 1995. Developed test questions for the AP Economics Exam for the Educational Testing Service, Princeton, NJ.

**Faculty Mentor, Research Careers for Minority Scholars Program, University of Michigan**, Summer, 1994. Served as a mentor for two Hampton University students on a collaborative research project with two University of Michigan professors, the students and myself. The research project was entitled “Interpreting African-American Marriage Trends and their Economic Effects on the African-American Family”.

**Editorial Assistant**, Summer, 1989. Assisted in the preparation of Intermediate Microeconomics, Second Edition, by Hal R. Varian, and Workouts in Intermediate Microeconomics, by Theodore Bergstrom and Hal R Varian. With Professors Bergstrom and Varian and W.W. Norton and Co.

## **Referee and Review Work**

- **American Council for an Energy Efficient Economy, Conference Proceedings**
- Economic Inquiry

### **Qualifications of Kathleen McElroy, XENERGY, Inc.**

Ms. McElroy worked as a consultant for the California High Performance Schools (CHPS) collaborative assisting the stakeholders in coordinating meetings and reporting on major deliverables. Ms. McElroy also helped PG&E create its CHPS implementation plan by identifying ways in which the utility could leverage its existing nonresidential energy efficiency programs to meet specific goals and milestones for the CHPS initiative. Ms. McElroy worked closely with a variety of stakeholders in the CHPS arena, including the representatives from the utilities, the Energy Commission, the CEC, the Department of Education, and the Integrated Waste Management Board. Ms. The review and refinement of K-12 energy curricula was an occasional component of the CHPS meeting agendas.

In addition, Ms. McElroy worked as part of a team of researchers to evaluate and refine K-12 energy efficiency curriculum for the Pennsylvania Department of Education. Through this research, Ms. McElroy and her colleagues conducted workshops throughout the state with teachers and administrators to identify "best practice" educational materials and processes.

# KATHLEEN MCELROY

## EDUCATION

University of Pennsylvania, M.S., Energy Management and Policy/International Development, 1989

The American University, B.A. Economics and International Relations, 1987

## EXPERIENCE HIGHLIGHTS

### **XENERGY Inc. (Oakland, California), 1999 - Present**

*Senior Consultant.* Provide consulting and project management support in the areas of energy efficiency program planning, design, marketing and evaluation, market research design, market assessment, and performance measurement.

### **Hagler Bailly Services (Palo Alto, California), 1989-1999**

*Manager.* Supported domestic utility consulting practice in the areas of market transformation program design, implementation and evaluation, new product and services design and marketing, market analysis and business case development, general management consulting, and retail services implementation support.

## FIELDS OF SPECIAL COMPETENCE

- Energy efficiency program planning, design, marketing and evaluation
- Energy market assessment and analysis
- New product and service design and marketing
- Performance measurement

## MAJOR PROJECTS

**Process Evaluation of State of Wisconsin Focus on Energy Programs.** Ms. McElroy managed the effort to conduct an overall process evaluation of the pilot and statewide Focus on Energy Program, implemented by the Wisconsin Department of Administration (DOA). This program encompassed a broad array of energy efficiency and renewables programs targeting residential, commercial, industrial and agricultural customers throughout Wisconsin. The evaluation involved in-depth interviews with key individuals involved in program administration, implementation, and evaluation. The final report provided recommendations for improvements in these areas.

### **Low Income Energy Efficiency (LIEE) Program Evaluation: Impact and Process**

**Evaluation.** Ms. McElroy is XENERGY's project manager for this comprehensive evaluation of California's statewide LIEE Program. This evaluation includes both a process and impact evaluation component. XENERGY conducted this evaluation for the 2000 program year, and is currently conducting an evaluation of the 2001 program year, including Rapid Deployment measures. The process evaluation involves the collection and review of data for the four California investor-owned utilities, and will provide an assessment of the internal processes of each utility's LIEE program in order to make mid-year program improvements where feasible and refine program plans for future program years. The impact evaluation provided the utilities with first-year impacts for the 2000 program year, and will provide updated impact estimates for the 2001 program year and Rapid Deployment measures.

**Evaluation of PG&E's 1-2-3 Cashback Program.** Ms. McElroy is managing a process and impact evaluation of PG&E's umbrella 1-2-3 Cashback program, which offered residential customers with conservation tips and rebates for energy efficient appliances and other equipment. A specific analytic objective of this project is to determine the nature and frequency of no-cost energy efficiency actions in the population and the portion of which that can be linked to the 1-2-3 Cashback Program. This will involve assessing no-cost action incidence rates and performing an attribution analysis to identify which actions are linked to the Program. The process evaluation will examine differences in program-driven incidence rates for different measures, which may provide some objective evidence of the relative effectiveness of different program messages.

**CA Statewide Residential Lighting and Appliance Study.** Managed data collection and analysis activities for statewide, multi-phase market effects study of the IOU's lighting and appliance programs. Managed consumer telephone surveys, retailer and manufacturer in-depth interviews, and the development of market characterizations and program descriptions. Performed analysis on time series data and reported on market indicators and evidence of market effects.

**Evaluation of ENERGY STAR<sup>®</sup> Awareness Campaign, Pacific Gas & Electric.** In late 2000, PG&E launched a comprehensive, mass media advertising campaign to promote and raise awareness of the ENERGY STAR<sup>®</sup> brand throughout the utility's service territory. Ms. McElroy managed a pre-/post-campaign awareness study that determined the effectiveness of the effort in raising awareness, and conducted follow-on segmentation analysis to improve future advertising efforts. Ms. McElroy also assisted the utility's ad agency in planning and interpreting the results from a series of pre-campaign concept and creative testing focus groups. The ad agency also built on prior work conducted by Ms. McElroy for the CBEE that addressed baseline levels of public awareness and attitudes toward energy efficiency.

**Assessment of Public Awareness and Attitudes Toward Energy Efficiency, California Board for Energy Efficiency (CBEE), Pacific Gas & Electric.** This study involved a comprehensive statewide baseline survey of residential customers' awareness and attitudes toward energy efficiency, as well as a comparison survey of U.S. (non-California) households. This study was completed to lay the groundwork for analyzing and tracking public awareness and attitudes toward residential energy efficiency programs, products and services. Finally, this study has been useful in providing input for future program planning, design and marketing.

**Market Effects Study for Refrigerators and CFLs, San Diego Gas & Electric, Pacific Gas & Electric.** This study consisted of an assessment of the market effects attributable to SDG&E and PG&E Residential Appliance Efficiency Incentives Programs (featuring refrigerators and CFLs). It involved the review of industry/utility data, surveys with purchasers of refrigerators/CFLs in California and comparison areas, and interviews with manufacturers and major retail chains. The intent of the study was to assess the extent to which these utilities' programs have induced a market transformation of the residential energy efficient refrigerator and CFL markets. The study design effectively integrated the paradigms and definitions included within the current industry "thinking" on market effects indicators and measurement strategies.

**Market Effects Study for Customer Technology Applications Center, Southern California Edison.** This project involved a study of the market effects attributable to Southern California Edison's Customer Technology Applications Center (CTAC). This study involved the review of industry/utility data concerning commercial and industrial lighting and HVAC technologies,

surveys with CTAC seminar attendees, and interviews with manufacturers, distributors and vendors.

**Design and Evaluation of Market Transformation Programs, Arizona Public Service Company (APS).** This project involved the development of a plan for implementation of APS' residential and commercial market transformation programs. The underlying purpose of these programs is to minimize or eliminate known market barriers to the adoption of high-efficiency technologies in retrofit and new construction applications, and to achieve a transformed marketplace for energy efficiency in specific market areas. The program includes a performance measurement strategy designed to provide APS with feedback on the effects of the programs and the adoption of energy-efficiency measures. The performance measurement plan includes a set of indicators which will assist APS with making the decision as to when it is appropriate to exit from market intervention activities. The final product from this study identifies these performance indicators, specifies details regarding the measurement plan, and outlines the components of the exit strategy.

**Evaluation of Residential Energy Services Programs, Pacific Gas & Electric.** This project was originally awarded as a "standard" DSM process evaluation, involving two of PG&E's largest residential energy efficiency programs -- Direct Assistance (low income) and Energy Management Services (on-site, phone and direct mail energy audits). Since the project was initiated in 1996, its scope has expanded in a number of different ways. The current scope of the project now involves a critical assessment of PG&E's residential program designs and delivery strategies, including extensive internal interviewing and program background research as well as (at a minimum) about 1,500 customer surveys. PG&E is interested in research results that will provide them with a strategic plan for re-positioning, re-designing and/or re-aligning residential programs so as to most effectively meet customers' wants and needs. In addition, this plan will support decision making by senior management when called upon to demonstrate the future value of residential DSM programs delivered by PG&E.

**Evaluation of Massachusetts Energy Conservation Service (ECS), Massachusetts Division of Energy Resources (DOER).** This effort involved a comprehensive evaluation of the Massachusetts Energy Conservation Service (ECS), a program offering home energy audits and follow-up services to all residents of the state. This service is provided by all gas and electric investor-owned utilities (IOU) and municipal utilities in Massachusetts, and has been since 1980 per Massachusetts statute. Hagler Bailly's evaluation of the ECS Program was initiated by the Massachusetts Division of Energy Resources (DOER) to determine the need for program changes given the evolution of energy efficiency services in Massachusetts since 1980, and future changes anticipated from utility industry restructuring.

There were two primary objectives of the research: (1) to determine if the ECS program, as currently designed and implemented, achieves the goal of energy conservation in the most efficient manner, and (2) to identify ways in which the program could be modified to more effectively meet this goal, as well as meet the changing energy efficiency needs of Massachusetts residents throughout the transition to and after the utility restructuring. This evaluation involved a series of interviews with over 80 stakeholders with an interest in the ECS program; a survey with ECS participants to determine satisfaction and the extent of energy conservation actions; a needs assessment survey conducted with the general Massachusetts public to assess program awareness, energy efficiency needs, preferences for delivery mechanisms and levels of support; and impact analysis to determine the extent of energy savings attributable to the program; and a technical evaluation of the audit tool and education processes.

**Product Development Support, Entergy.** This effort produced a comprehensive set of marketing materials, sales tools, communication devices, training programs, and support systems for Entergy to roll out its latest set of 48 products and services. Entergy's Product Development Team wanted to take its preliminary list of new and existing products and services to complete development with all needed materials and support systems for full implementation. Working from its offices at Entergy for approximately six months, Ms. McElroy assisted in the definition, repackaging, and renaming of the products and services, and contributed to the development of over 100 deliverables to help market, communicate, and sell the products. As a follow-up to the project, an electronic version of the manuals and tools were developed.

**Load Research Program Design and Review of DSM Action Plan, Ceylon Electricity Board (Sri Lanka).** Ms. McElroy served as a consultant to the Sri Lankan Ceylon Electricity Board (CEB) to (i) formulate a load research program for implementation under the World Bank-financed Energy Services Delivery Project; and (ii) review and comment on the CEB's existing DSM Action Plan. McElroy spent three weeks in Colombo working with CEB's DSM and Electronic Data Processing (EDP) staff to identify, collect and analyze CEB's numerous customer energy-use data files for the purpose of developing the load research program sample design. The final sample design resulted in a well-constructed plan for collecting/analyzing load research data that is statistically representative of all customers, and stratified by region (province) and by tariff class. In preparing the sample design, Ms. McElroy developed an in-depth familiarity with CEB's central computerized billing database, as well as the process/procedures used to collect billing data in the field, enter this data electronically in the 50 CEB area offices, and transfer the data to CEB's head office in Colombo.

In addition, while in Colombo, Ms. McElroy provided the CEB with a review of its DSM Action Plan. This document identified key issues to be addressed prior to the implementation of the various activities described in the DSM Action Plan, as well as offered some specific refinements to the DSM Action Plan. Through this experience, Ms. McElroy gained considerable insight into the CEB's current plans and strategies for promoting DSM in all sectors (commercial, industrial and residential), which supplemented her existing knowledge of residential customer energy-use.

**Residential Electricity Demand Assessment, World Bank Asia Alternative Energy Unit (ASTAE).**

Ms. McElroy completed a residential sector energy study for World Bank ASTAE. The Urban-Rural Residential Electricity Consumption Assessment is one input into the development of a national DSM strategy. The research objectives of this project were to collect and analyze data on end-use consumption patterns of electricity and other fuels, and identify attributes that influence energy consumption behavior in Sri Lanka. In turn, this data was used to formulate recommended DSM strategies. Research focused on urban and rural households, and both electrified households and non-electrified households within the rural segment to assess significant differences in energy usage and its underlying explanatory variables. In addition, market research was conducted at a sample of residential appliance dealers in Sri Lanka to obtain information on the availability of appliances. Ms. McElroy also reviewed and incorporated key findings from the initial assessment of Commercial Building Sector Demand-side Management Potential to support a broader set of policy recommendations to be incorporated into national energy efficiency strategies. The report was published in May 1996 by the World Bank Asia Alternative Energy Unit (ASTAE).

**DSM Manual for APEC Member Economies, Oakridge National Laboratory.** Ms. McElroy co-authored a DSM manual for the APEC member economies, the purpose of which is to provide an overview of principles and practices of DSM. The manual is intended for a diverse audience, including electric utility staff; government officials responsible for energy, finance, industry,



housing, and planning; energy equipment manufacturers, dealers, and contractors; non-governmental organizations (NGOs); international lending agencies; and the general public. The primary audience for the manual is utility personnel who are new to DSM, and are looking for an overview on DSM. Executives as well as technicians should benefit from this report. In some instances, even DSM specialists may derive some benefit from it, through a review of material that deals with topic areas other than their own. They might also benefit from a reading of the various case studies that appear throughout the report, describing the experience of various APEC economies.

**Process and Impact Evaluation of Residential Utility Low Income Energy Efficiency Program (ULIEEP), Brooklyn Union Gas.** Ms. McElroy completed a comprehensive three-year Process and Impact Evaluation of Brooklyn Union Gas Company's (Brooklyn Union) Utility Low Income Energy Efficiency Program (ULIEEP). This program provides cost-effective gas DSM measures to residential low-income customers through an audit and direct installation mechanism. This evaluation entailed a systematic assessment of whether or not the program is operating according to its design, and whether it has achieved the desired goals and objectives. It also involved the analysis of a wide range of issues with numerous primary data sources, such as customer billing histories, customer surveys and focus groups, program tracking data, and interviews with key contributors to the program design and implementation. Ms. McElroy also directed the activities related to the statistically adjusted engineering (SAE) analysis of program impacts, review of program audit software and results, and an (optional) cost-effectiveness evaluation.

**Integrated Analysis of Market Response to Various Programs, Wisconsin Demand-Side Demonstration.** Ms. McElroy contributed to the writing of a series of thematic reports using cross-cutting analysis from the wealth of information provided by the seven community-based programs and six other technology-oriented DSM programs, including a statewide motors program, HVAC programs, and lighting demonstrations. These thematic reports include topics such as: market transformation, partnering with trade allies, response to community-based programs, targeting the residential market, and the use of financial and nonfinancial incentives.

**Evaluation of New London Resource Project, Wisconsin Demand Side Demonstrations.** Ms. McElroy managed the evaluation of a community-based energy efficiency program targeted toward residential, commercial and industrial customers in New London, Wisconsin. This program was one of six community-based demonstration projects conducted by Wisconsin Demand-Side Demonstrations. The purpose of the program was to demonstrate that a community-based, energy efficiency program that is planned and delivered with substantial community involvement will produce more long-term conservation at a lower cost than existing utility energy efficiency programs. The evaluation effort incorporated feedback from sponsoring utility staff and contractors, local community advisory committee members, participants and trade allies. The evaluation findings were also supported by a number of commercial and residential baseline studies and trade ally stocking surveys previously completed.

**Communities as a Resource for Promoting Energy Efficiency: Lessons Learned from Wisconsin Community-Based Programs, Wisconsin Demand-Side Demonstrations.** Ms. McElroy contributed to the integration of findings from the evaluations of six Wisconsin community-based demonstration projects conducted by Wisconsin Demand-Side Demonstrations, Inc. (WDSI). Each of the programs were evaluated separately and incorporated a diverse set of features and design parameters. The objective of the integration analysis was to establish a framework for planning, administering, promoting, marketing, and implementing successful

community-based marketing programs based on the “lessons learned” from the demonstration projects.

**Conjoint Analysis of Insulation Program Designs, Pacific Gas & Electric.** Ms. McElroy managed a conjoint analysis of PG&E's insulation program designs. This project involved the use of a telephone-mail-telephone data collection technique, through which customers' preferences for specific program design elements were tested. The results of the conjoint analysis were used by PG&E program planners to modify existing program designs to ensure both customer acceptance and cost-effectiveness.

**DSM Evaluation Workshop, Dayton Power & Light.** As part of a team of instructors, Ms. McElroy presented a training seminar on the use of operational audits, as performed as part of DSM Process Evaluations. The training seminar was conducted for Dayton Power & Light, as the utility embarks on a multi-million dollar marketing effort. Also presented during this training workshop were the following seminars: Market and Marketing Evaluations; Program Monitoring and Performance Tracking Issues; Evaluating Special Program Types (i.e., low-income programs, ESCO-delivered programs, comprehensive/bundled programs); Externality Impact Issues; and, Evaluation Planning and Design.

**Siting of Low-Level Radioactive Waste Disposal Facility, Chem-Nuclear Systems, Inc.** Ms. McElroy assisted in the conduct of a series of 12 focus groups in the six DER regions of Pennsylvania to facilitate public involvement in the siting of a low-level radioactive waste disposal facility. The focus groups were used to: (1) develop a survey research instrument to provide an analytical basis for public input into the weighting of factors to be later used in the evaluation of potential sites; (2) assess public awareness of low-level waste and of the Commonwealth's plans for developing a facility; and (3) solicit additional methods and means for involving the public in the siting process.

**Testing of Print Advertisements for Utility Marketing Programs, Atlantic Electric Company.**

Ms. McElroy was responsible for the analysis and interpretation of results of 150 surveys testing residential customer reactions to Marketing program print advertisements for Atlantic Electric Company. The ads compared three advertising approaches for three separate programs involving time-of-use rates, energy-efficient home ratings, and direct load management.

**Commercial/Industrial Waste Reduction and Recycling Clearinghouse Services, New York State Department of Economic Development.** Ms. McElroy assisted in the assessment of the specific needs of a clearinghouse program in support of commercial and industrial waste reduction and recycling. Ms. McElroy directed the conduct, and analysis and interpretation of results of over 100 in-depth telephone interviews with potential clients of a clearinghouse, particularly, those who already have established waste reduction/recycling programs. Ms. McElroy also assisted in developing the methodology to be used in assessing the relative importance of all client groups (i.e., the intersection of a region and a business activity) with respect to the use of these services.

**Residential Utility Customer Reactions to Energy Conservation and Marketing Advertisements, Philadelphia Electric Company.** Ms. McElroy was responsible for the analysis and interpretation of results of several focus groups with residential customers. The purpose of the study was to test customer reactions to sample television, radio and print advertisements to determine whether messages promoting energy conservation and messages promoting the use of heat pumps could be aired simultaneously without creating confusion or

conflict in customers' minds. Ms. McElroy was responsible for the analysis and interpretation of results, as well as writing the final report.

**Exploration of Residential Customer Reactions to Electric Thermal Storage Systems, Atlantic Electric Company.** Ms. McElroy directed the analysis and interpretation of results of two focus groups with residential customers of Atlantic Electric. The purpose of this research was to test both electric and non-electric heat customer reactions to electric thermal storage heating systems. The results from the focus groups were used to help design and interpret the results of a telephone survey.

**Attachment C**

**R.01-08-028 Service List**

abrice@rhainc.com  
adiff@aol.com  
admin@gesusa.org  
agarcia@energy.state.ca.us  
andy.bettwy@swgas.com  
andy@salasobrine.com  
ann\_kelly@ci.sf.ca.us  
arago@csi.com  
ashish@insyncinfo.com  
asowell@scsa.ca.gov  
barbara@rhainc.com  
bburt@macnexus.org  
bfoster@gepllc.com  
bgroch@greentechenergy.com  
bgwem@igc.org  
billknox@dcn.davis.ca.us  
BillM@soldata.com  
blaising@braunlegal.com  
bmast@frontierassoc.com  
bob.belhumeur@honeywell.com  
brenda@rer.com  
bwildman@sbwconsulting.com  
cal.broomhead@sfgov.org  
carel.dewinkel@state.or.us  
carey.hamilton@ci.sj.ca.us  
case.admin@sce.com  
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cs@getwise.org  
ctd@cpuc.ca.gov  
dale.foster@ttemi.com  
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dmahone@h-m-g.com  
dmb@cpuc.ca.gov  
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jsugar@energy.state.ca.us  
jsynesio@us-power.com  
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mjberm@davisenergy.com  
mmccormick@gralegal.com  
mmesseng@energy.state.ca.us  
mmoore@sempira.com  
moore@ecosconsulting.com  
mpa@a-klaw.com  
mrufo@xenergy.com  
mrw@mrwassoc.com  
mshames@ucan.org  
msutter@alamedanet.net  
mtirpak@icfconsulting.com  
mwbeck@lbl.gov  
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peter\_canessa@csufresno.edu  
pfeffer@scag.ca.gov  
pfreedman@ecosconsulting.com  
pjpowerlaw@aol.com  
pmiller@nrdc.org  
ppiette@qcworld.com  
pstoner@lgc.org  
pwelker@peci.org  
qcworldmail@yahoo.com  
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rsflood@mindspring.com  
rsperberg@onsitenergy.com  
rsridge@attbi.com  
ru4@cpuc.ca.gov  
rutledgev@publicfm.com  
rwwilson@lbl.gov  
sam.driggers@ci.stockton.ca.us  
sam@energy-solution.com  
scarter@nrdc.org  
sesco-lf@att.net  
shallenbgr@aol.com  
shiv@quixnet.net  
ska@cpuc.ca.gov  
slwb@pge.com  
smecum@qcworld.com  
smo@cpuc.ca.gov  
springer@davisenergy.com  
srovetti@puc.sf.ca.us  
srt@cpuc.ca.gov  
sschiller@nexant.com  
sstrom@mncee.org  
staples@staples-ad.com  
staples@staples-ad.com  
sthigpen@drintl.com  
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ztc@cpuc.ca.gov